

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:
histogram calculation means for calculating a
histogram that is consonant with an input image;

5 binary threshold value calculation means for
calculating a binary threshold value, based on said
histogram, with which a predetermined area in said
input image is blurred;

10 binarization means for binarizing said input image
using said binary threshold value; and

calculation means for calculating the color of
said predetermined area of said input image based on
the results obtained by said binarization means.

15 2. An image processing apparatus according to
claim 1, wherein, by referring to a binary image
obtained by said binarizing means, said calculation
means calculates the average value of portions in said
input image that correspond to black portions of said
20 binary image, and calculates the color of a
predetermined area of said input image based on said
average value.

25 3. An image processing apparatus according to
claim 1, wherein, by referring to a binary image
obtained by said binarizing means, said calculation
means calculates a histogram for portions in said input

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image that correspond to black portions of said binary image, and calculates the color of a predetermined area of said input image based on said histogram.

5 4. An image processing apparatus according to claim 1, wherein said binarizing means further includes inversion means for inverting the binarized results.

10 5. An image processing apparatus according to claim 1, wherein the image in said predetermined area is a symbol image.

15 6. An image processing method comprising:
a histogram calculation step of calculating a histogram that is consonant with an input image;
a binary threshold value calculation step of calculating a binary threshold value, based on said histogram, with which a predetermined area in said input image is blurred;
20 a binarization step of binarizing said input image using said binary threshold value; and
a calculation step of calculating the color of said predetermined area of said input image based on the results obtained by said binarization means.

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7. An image processing method according to claim 6, wherein, by referring to a binary image obtained at

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5 said binarizing step, at said calculation step, the average value of portions in said input image that correspond to black portions of said binary image is calculated, and the color of a predetermined area of said input image is calculated based on said average value.

10 8. An image processing method according to claim 6, wherein, by referring to a binary image obtained at said binarizing step, at said calculation step, a histogram for portions in said input image that correspond to black portions of said binary image is calculated, and the color of a predetermined area of said input image is calculated based on said histogram.

15 9. An image processing method according to claim 6, wherein said binarizing step further includes an inversion step of inverting the binarized results.

20 10. An image processing method according to claim 6, wherein the image in said predetermined area is a symbol image.

25 11. A computer-readable storage medium on which stored is a program comprising:

a code for calculating a histogram that is consonant with an input image;

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a code for calculating a binary threshold value, based on said histogram, with which a predetermined area in said input image is blurred;

a code for binarizing said input image using said
5 binary threshold value; and

a code for calculating the color of said predetermined area of said input image based on the results obtained by said binarization means.

10 12. An image processing apparatus comprising:
binarizing means for binarizing color image data;
detection means for detecting a symbol area in
said color image data;

color reduction means for obtaining, from N colors
15 that form a symbol in said symbol area, M colors that
are equal to or smaller than N;

symbol cutting means for performing a symbol
cutting process for said symbol area; and

color allocation means for allocating one of said
20 M colors for each symbol cut unit that is obtained by
said symbol cutting means.

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